• WHAT MAKES AN ABSTRACT?
• WHAT MAKES A **GOOD** ABSTRACT?
• USES OF THE ABSTRACT
• SUBMITTING TO SACNAS (OR ELSEWHERE)
• WHAT DO I DO IF I DON’T HAVE RESULTS BY THE SUBMISSION DEADLINE?
• WRITING IS HARD
The 5 Parts of an Abstract

1. Title (overview)
2. Objective/Purpose of the study (why?)
3. Materials and Methods (how?)
4. Results (what?)
5. Conclusion/Significance (so what?)
The 5 Parts of an Abstract

**Title:** Should be written with your audience in mind—use terms likely to be familiar to the average reader in a given audience; give enough information to help specialists who might be scanning abstract book for posters relevant to their research; unless for a disciplinary conference, avoid overly technical language or abbreviations except for widely recognized ones (RNA, DNA, ATP and so forth)

**Objective/Purpose of the study** (*why?*): a concise statement of your research question or hypothesis.

**Materials and Methods** (*how?*): describe only important information about procedure, equipment, and quantities.

**Results** (*what?*): include specific, data; if results are quantifiable, then report as such; results of statistical analysis should be included.

**Conclusion/Significance** (*so what?*): briefly state important conclusions or questions that follow from the findings.

*Note that the form of an abstract mirrors the form of a scientific research paper*
Uses of the Abstract

• Submit as part of a conference or fellowship proposal

• Summarize a research project for funding requests, publication, or research resources
  – Databases (PubMed, libraries, etc.)
  – Journal submissions
  – Pre-proposal for grant funding

• Conferences use them to produce abstract books for participants to review
Enantioselective Total Syntheses of FR901464 and Spliceostatin A and Evaluation of Splicing Activity of Key Derivatives.

Ghash Aj1, Chen ZH, Effenberger LK, Jurica MS.

Abstract
FR901464 (1) and spliceostatin A (2) are potent inhibitors of spliceosomes. These compounds have shown remarkable anticancer activity against multiple human cancer cell lines. Herein, we describe efficient, enantioselective syntheses of FR901464, spliceostatin A, and corresponding diastereomers and an evaluation of their splicing activity. Syntheses of spliceostatin A and FR901464 were carried out in the longest linear sequence of 9 and 10 steps, respectively. To construct the highly functionalized tetrahydrofuran ring, we utilized CBS reduction, Ackermann rearrangement, Michael addition, and reductive amination as key steps. The remarkable diastereochemistry of the Michael addition was specifically demonstrated with different substrates under various reaction conditions. The side chain B was prepared by an optically pure alcohol, followed by acetylation and hydrogenation over Lindlar's catalyst. The other densely functionalized tetrahydrofuran C-ring was derived from readily available (R)-dipropionyl glycerolactone through a route featuring 1,3-dipolar cycloaddition, cyclic ketalization, and regioselective epoxidation. These fragments were coupled together at a late stage through amidation and cross-metathesis in a convergent manner. Six key diastereomers were then synthesized to probe the importance of specific stereochemical features of FR901464 and spliceostatin A, with respect to their in vitro splicing activity.

PMID: 24073940 (PubMed - in process) PMCID: PMC4000892 (Available on 2015/05/01)
SACNAS Undergraduate Summer Research Abstract Submission Guidelines

All submissions must be received within the 2014 Application Period: June 16 - July 14 at 5 PM PDT

Abstract Guidelines
Submissions must follow these guidelines in order to be considered for a presentation:

Abstracts must contain:
  • At least two authors including presenting author (student), research mentor, or co-authors
  • All undergraduate, postbaccalaureate, and graduate student abstract submissions (poster and oral) are reviewed on a scale of 1 to 5 (5 being the highest) based on the criteria outlined below
  • A hypothesis or statement about the problem under investigation
  • A statement of the experimental methods/materials used
  • Results provided in summary form (even if preliminary)
  • Conclusion

1. All abstract review decisions are final.
2. Submissions with average scores of 3 and above will be published in the Annual Abstracts Volume and will be considered for presentation
3. Abstract word limit is 250 (maximum). No graphics or schema are allowed in SACNAS abstract submissions
4. Abstracts will need to be approved by the Principal Investigator (PI) before submission. Students must obtain permission from their PI, co-authors and/or research mentors before submitting an abstract. Research mentors will receive an e-mail notification of abstract submission.
5. Students working in the same lab must independently submit original abstracts, identical abstracts submitted by different students will be automatically rejected.
6. Only abstract submitters can be presenting authors for student poster and/or oral presentations
7. Important Note: No changes are allowed after submission

http://sacnas.org/events/national-conf/student-postdoc-research-presentations/guidelines
All submissions must be received through the online abstract submission site by 11:59 p.m. Pacific Standard Time on September 5, 2014. Late submissions will not be accepted. E-mail and paper submissions will not be accepted.

Accepted abstracts must contain (1) at least two authors in the author block, (2) a hypothesis or statement about the problem under investigation, (3) a statement of the experimental methods/methodology used, (4) essential results provided in summary form (even if preliminary), and (5) a conclusion. Abstracts missing any of the items above will be rejected.

Students must obtain permission from their research mentors, coauthors, and program directors before submitting an abstract. Research mentors, coauthors, and program directors will receive a copy of the notification e-mail on October 1, 2014 indicating the status of the abstract.

Only one abstract submission, poster or oral, per student is acceptable. Students must decide between submitting an abstract for poster presentation or oral presentation. If a student is listed as the presenting author on more than one abstract, all abstracts associated with the student will be automatically rejected.

Students working in the same lab must independently submit original abstracts. Identical abstracts submitted by different students will be automatically rejected.

Abstracts must be written by the student and reviewed/edited by the mentor. Mentors should not write the abstract. Only students can be presenting authors. Only one student, the individual listed first in the author block, can present the abstract. Work must be proofread prior to submission. ABRCMS staff will not edit abstracts.

Fundamental Qualities of a Good Abstract

• Single paragraph, no extra line breaks, no indentations.
• Written in the 1st person plural (“we”)
• Written in the past tense
• Focus is on summarizing results; limits background info to essentials
• No references or citations—an abstract must stand alone
• Length is usually around 250 words; always check submission requirements for specific limits
Investigation of Nitric Oxide Mediated Oligonucleotide Damage by Photoactive Metal Nitrosyls

Student Name and PI Name
Department of Chemistry and Biochemistry
University of California, Santa Cruz

It has been demonstrated that the use of photoactive metal nitrosyls not only permits efficient transport of nitric oxide to the target site, but also provides light-triggered release of NO to cells which in turn lead to apoptosis. Since DNA damage is a hallmark of apoptosis, we are therefore interested in the interaction of DNA with NO and other reactive nitrogen species (RNS). We propose that Manganese nitrosyls can mediate in the light-activated production of RNS, such as peroxynitrite and dinitrogen trioxide and that these reactive nitrogen species are responsible for DNA damage. We predict that under physiological conditions more than one type of RNS can be generated with Manganese nitrosyls as NO sources. This implies a mixture deaminated and nitrosated DNA base products. We employed spectroscopic techniques and HPLC in characterizing the products obtained when DNA bases are exposed to photoactive NO donors and the subsequent RNS it generates. Preliminary findings indicate that exposure of guanine to NO gas alone does not alter its chemical structure. With designed metal nitrosyls as NO donors, we could have a convenient tool that allows analysis of individual components in the series of events that take place in the onset of apoptosis.
Exploring Population Connectivity Using Two Methods.

We investigated connectivity in south Texas by examining genetic variation in microsatellite loci and concentrations of stable isotopes in otoliths. Analysis of microsatellite data revealed no population structure (FST = 0.014, P = 0.35); however, pairwise comparisons indicated significant differences between some non-adjacent areas.

Discriminant function analysis of otolith stable isotope concentrations revealed that on average 64% of samples were assigned to the correct area. Our results suggest that mixing is occurring and is most likely between adjacent areas; however, longdistance migrations may also occur. therefore, demographic connectivity, including mixing rates among regions, should be considered as part of management decisions.
Critique of Abstract #1

• Title: Title too short and not descriptive, doesn’t give any context or tell what the study was about.

• Why (Introduction): Missing an “introduction” sentence or two that puts work into a context and identifies main questions/objectives.

• Hypothesis (Question/Problem): Also missing - there is no indication of the motivation/aim of the study or even of the main question addressed.

• How (Materials and Methods): Implied but not really described.

• What (Results): This part is actually good, but would be more meaningful and powerful if other information (e.g., introduction and methods) were there.

• Summary: Good summary statement, but also would be more powerful and understandable if other information were not missing.

• Conclusion/Significance: OK - could do a little better job of tying results back into the main aim or motivation of the study, if that information were included.
Worldwide fisheries declines have prompted concerns about population connectivity among management regions. Understanding connectivity will improve effectiveness of management strategies, especially for determining the scale at which these strategies should be implemented. Spotted seatrout, a species highly dependent on estuaries throughout its life, was our model species for this study. We investigated connectivity in south Texas by examining genetic variation in 10 microsatellite loci and concentrations of two stable isotopes (δ 13C and δ 18O) in otoliths (earbones). Given the estuarine dependence in this species, we hypothesized that we would find some genetic differentiation among areas as well as area-specific isotope “signatures” in the otoliths. We collected adults from multiple locations within each of five areas and used standard techniques to collect microsatellite genotypes and assess genetic differentiation among regions as one measure of population connectivity. We also quantified otolith δ 13C and δ 18O using inductively coupled mass spectrometry. Analysis of microsatellite data revealed no population structure (FST = 0.014, P = 0.35); however, pairwise comparisons indicated significant differences between some non-adjacent areas. Discriminant function analysis of otolith stable isotope concentrations revealed that on average 64% of samples were assigned to the correct area. Our results suggest that mixing is occurring and is most likely between adjacent areas; however, long-distance migrations may also occur. Therefore, demographic connectivity, including mixing rates among regions, should be considered as part of management decisions.
RESOURCES AND REFERENCES

• NATURE on scientific writing
  http://www.nature.com/nsmb/journal/v17/n2/full/nsmb0210-139.html

• SACNAS guide to writing abstracts
  http://sacnas.org/events/national-conf/student-postdoc-research-presentations

• SACNAS sample abstracts
  http://dl.dropboxusercontent.com/u/21485523/2012_Abstract_Samples.pdf

• Writing Papers in the Biological Sciences, 5th ed., Victoria E. McMillan,
  Bedford/St.Martin’s Press 2012
QUESTIONS?